

## **Implementation for Behavioral Protocol in Antarctica and Monitoring for the Highly Pathogenic Avian Influenza (HPAI) Virus in the Magallanes Region**

Submitted by INACH

The Highly Pathogenic Avian Influenza (HPAI) subtype H5 (H5N1) has been causing outbreaks in wild birds in the northern hemisphere since the year 2021. These have become more pronounced in 2022. The virus has spread rapidly in North America, with a large number of outbreaks in 2022.

There are currently reports of the virus in South America in countries such as Ecuador, Peru, and Chile, in the Pacific Ocean (coastal) sector. To date, Chile has confirmed the presence of the virus in birds in most of its territory. On December 7, 2022, the first case of HPAI (H5N1) was reported in the north of the country, associated with contact with seabird populations along the Peruvian coast. It is concerning that Peru has confirmed the presence of the virus and the death of about 800 sea lions in February 2023. We currently have reports of positive cases throughout Chile, reaching as far as Tierra del Fuego in April 2023, affecting black-necked swans (*Cygnus melancoryphus*). During the month of June, 1,911 samples birds were analysed in the Magallanes region, with 41 confirmed cases of HPAI (H5N1). This included domestic chickens (1,729), wild birds (182), wild cat (2) and one sea otter. No positive cases have been reported for marine mammals.

The detection of the virus in domestic and wild bird populations presents a disturbing scenario for the Magallanes and Antarctic Region, due to the interactions of Antarctic birds that frequently visit sub-Antarctic areas. These birds may include Southern Giant Petrels (*Macronectes giganteus*), Southern Fulmars (Antarctic Fulmars) (*Fulmarus glacialoides*), Snowy Sheathbills (*Chionis albus*), Cape Petrels (*Daption capense*), South Polar Skua (*Catharacta maccormicki*) and Brown Skua (*Catharacta antarctica*), but in low numbers. We have data that proves that giant petrels breeding in Antarctica visit South America during their breeding season, and can cross the Drake Passage in less than two days.

Also, populations of black-browed albatrosses (*Thalassarche melanophris*) from Diego Ramirez and Tierra del Fuego islands, in the Admiralty Sound Protected Multi-Use Marine Coastal Area ("Área Marina Costera Protegida de Múltiples Usos - AMCP-MU"), could be affected by the virus and could travel to Antarctic areas.

Given that the South Shetland Islands and the Antarctic Peninsula have large colonies of birds and marine mammals, and that current evidence indicates that the virus is spreading in the Southern Cone, this region poses a high risk for an HPAI outbreak in the austral summer of 2022/23, which could affect important colonies of birds and marine mammals such as fur seals.

Due to the evidence above, Chile has implemented a protocol based on the recommendations of experts from the Scientific Committee on Antarctic Research (SCAR), in conjunction with a group of avian experts from the Chilean National Antarctic Science Program (PROCIEN). This protocol applies to PROCIEN and members of National Antarctic Programs from Antarctic Treaty countries participating in the Antarctic Scientific Expedition (ECA) as well as to all Armed Forces personnel traveling to Chilean bases in the Antarctic territory. The protocol will soon be available on our website.

Scientific and logistics personnel working in or visiting these regions should act as if HPAI were to arrive in Antarctica and the sub-Antarctic islands, and should take appropriate precautions. If an outbreak is reported, the suggested prevention and control measures should be applied immediately by operators to prevent the spread of HPAI.

The protocol is based on current documentation from Chile's Agriculture and Livestock Service (SAG), the Centers for Disease Control and Prevention (CDC, USA), the World Health Organization (WHO), the World Organization for Animal Health (OIE), the Antarctic Wildlife Health Working Group (AWHWG) of SCAR, and a group of experts associated with the National Antarctic Science Program (PROCIEN) on epidemiological surveillance actions that South American countries are facing and the concern of the member countries of the Antarctic Treaty. This protocol will be tailored to the epidemiological and health situation in Chile and particularly to the region that includes Magallanes and Antarctica, at the time of its application. Leaflet dissemination materials have also been prepared with the most relevant information on the protocol. We have also implemented the diagnosis of suspected or symptomatic cases of influenza through the use of a rapid test kit (Fludetect®).

Our recommendations are: (1) Further research should be conducted to better understand the transmission and ecology of HPAI in the Antarctic ecosystem to inform future prevention and control measures; (2) It is necessary to discuss a protocol for the eventual mass death of animals and the handling of carcasses and bodies to prevent the spread of the virus; (3) A coordinate action will need to be monitored and tested wildlife colonies for HPAI to detect any further cases of the disease and prevent its spread.

Additional work is underway for a prevention protocol to be applied in the city of Punta Arenas, and in Puerto Williams, on Navarino Island. We believe it is vitally important that the gateway cities apply protocols to prevent the spread of the virus through human activities. We are also working on the validation of rapid detection kits to confirm or rule out HPAI-related deaths in bird or mammal species. This testing is expected for this year and for the following summer season (2023/2024) in Antarctica.